

# i-Tree Eco Workshop

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## Project Phase 1

*Al Zelaya*  
*Davey Tree Expert Company*

# Phase I: Early Decisions & Objectives



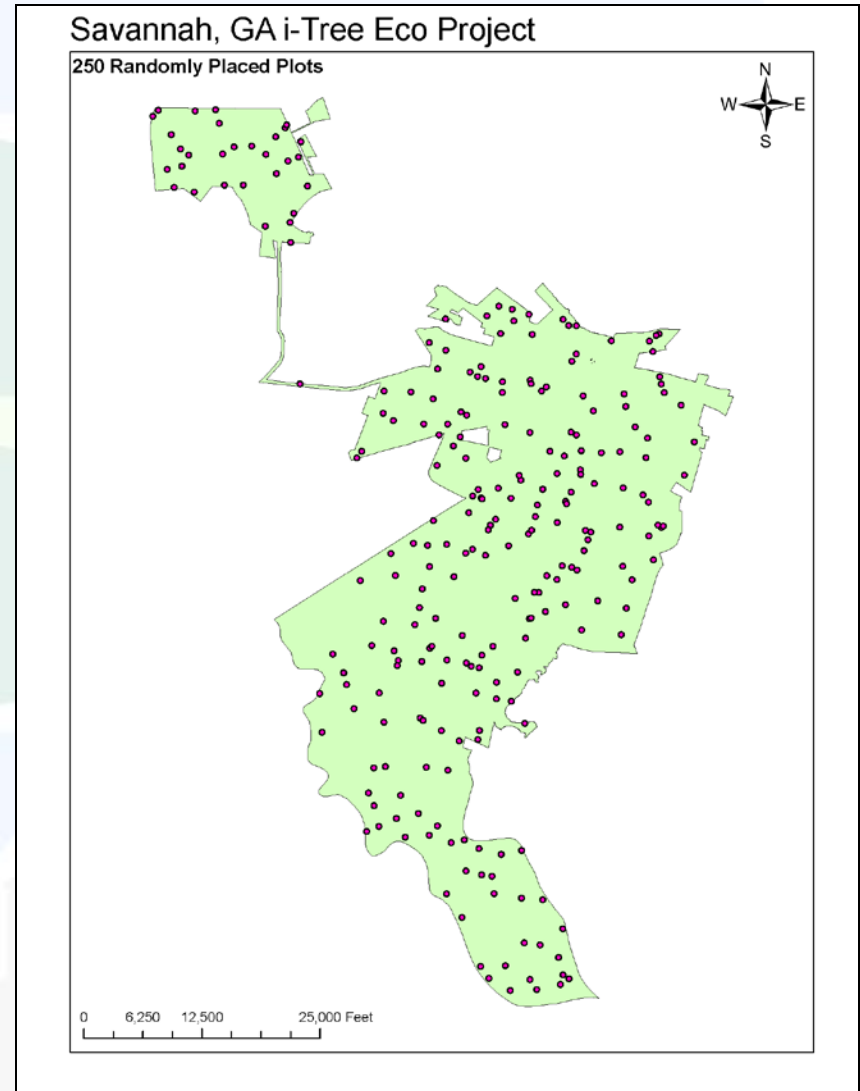
i-Tree is a  
Cooperative  
Initiative



# Phase 1 – Early Decisions



- 🌳 Project Types
- 🌳 Sample or Complete
- 🌳 Importing Existing Data
- 🌳 Data Collection Options



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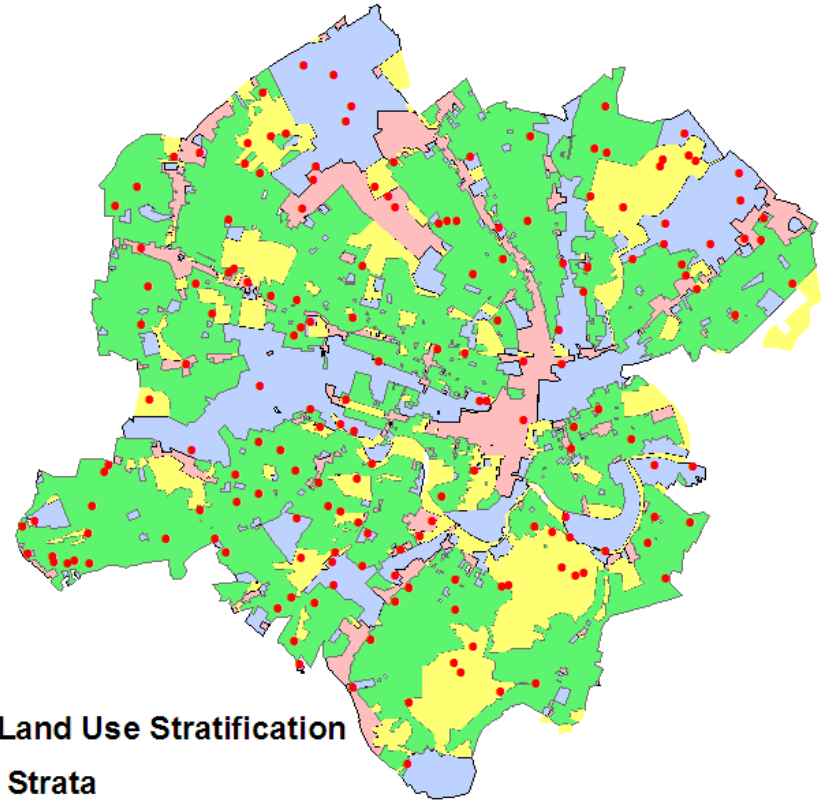




# Phase 1 – Early Decisions



- 🌳 Paper or PDA
- 🌳 Creating a Sample
- 🌳 Air Quality & Weather Data



Land Use Stratification

## Strata

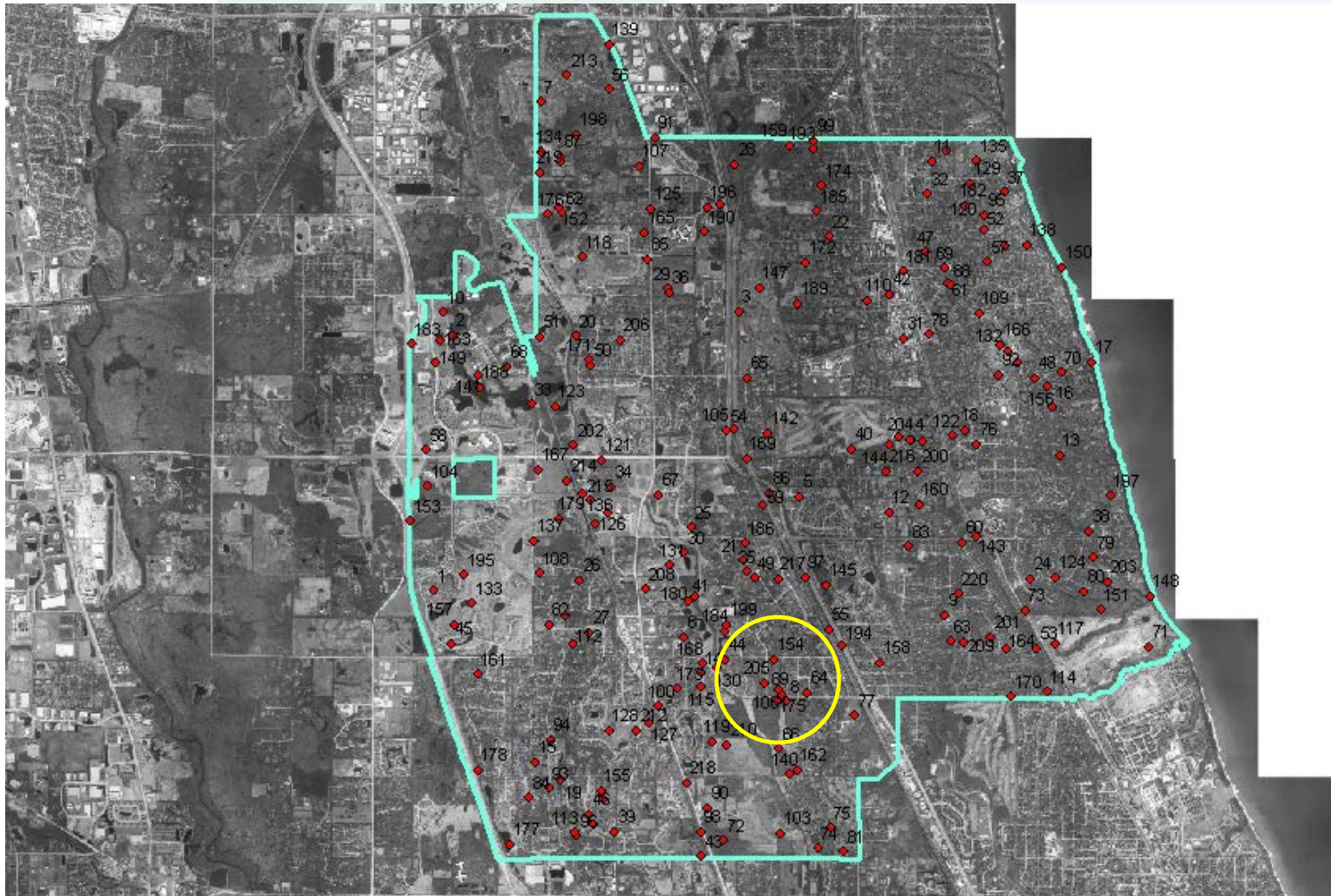
- Commercial
- Industrial
- Residential
- Underdeveloped



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# Eco Project Types (Suburb)

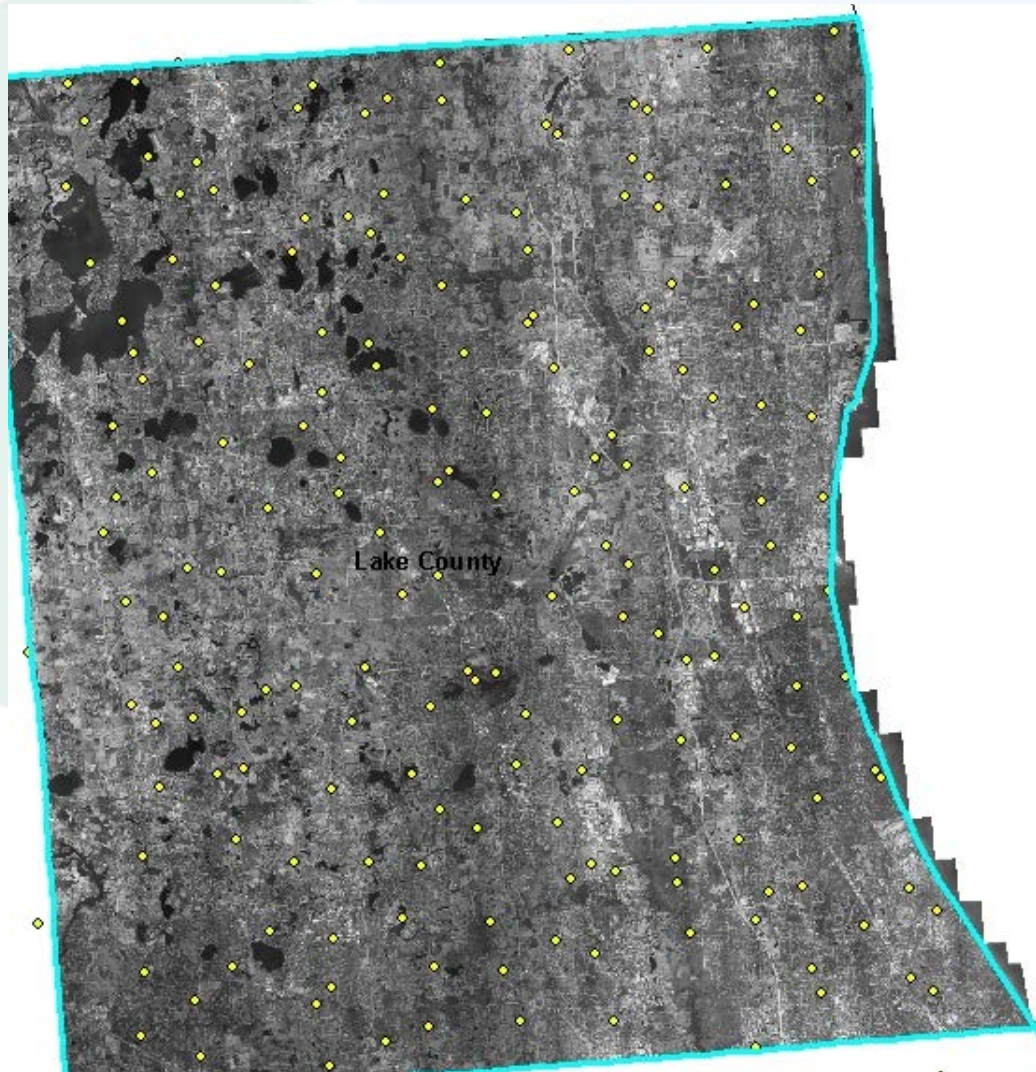




# Random Plots

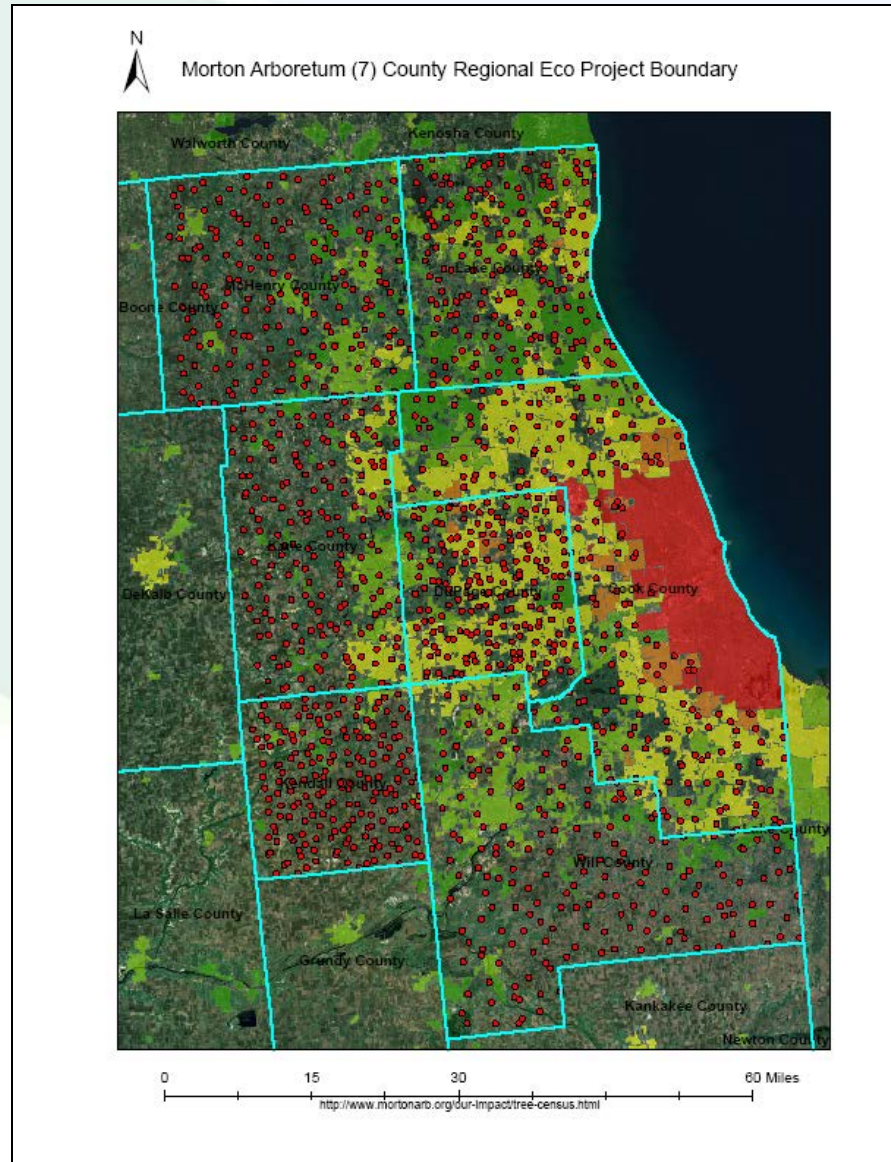


# Local Government Area





# Regional Eco Project





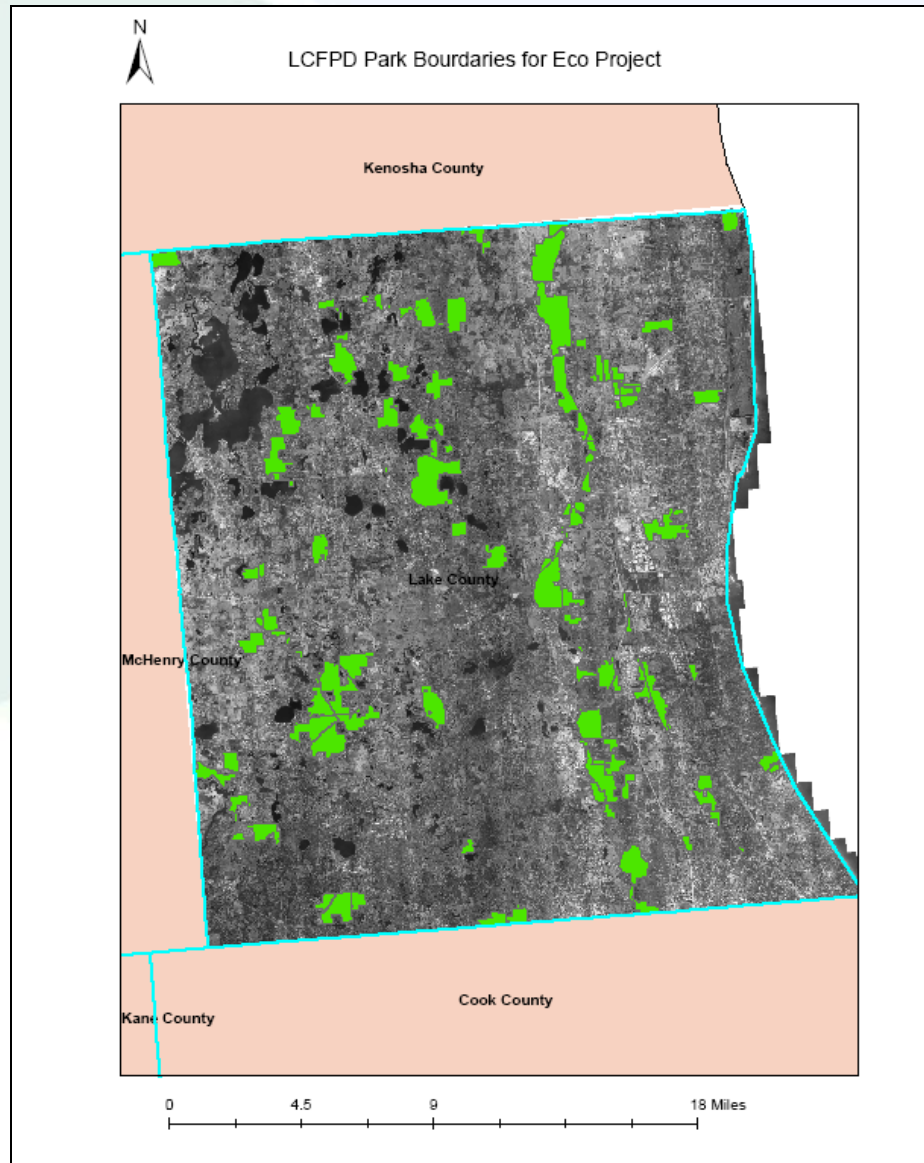
# School Campus



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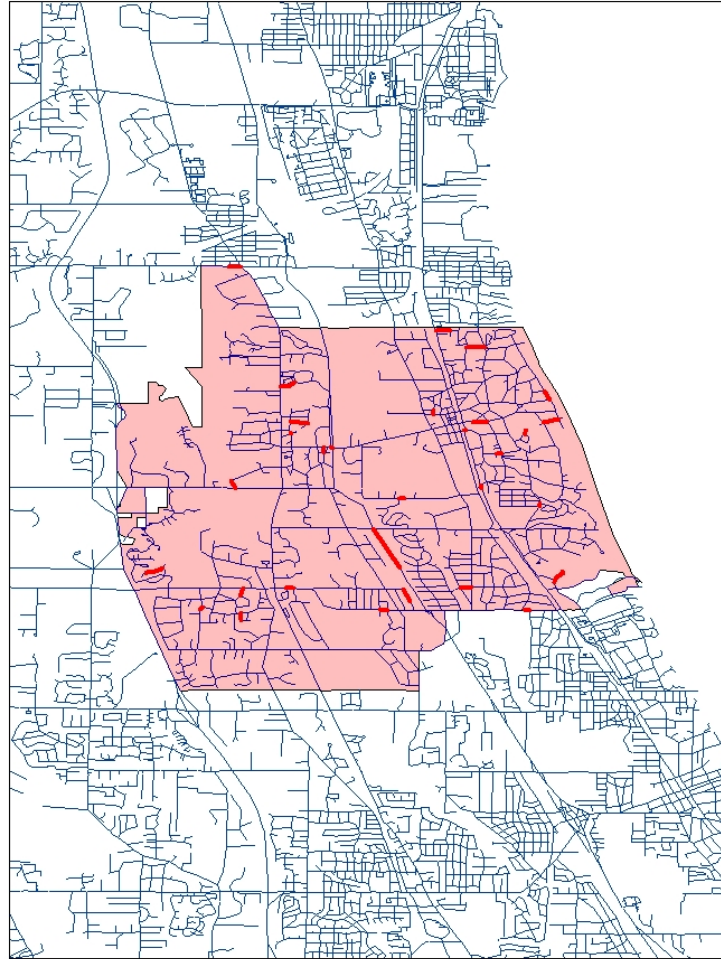
# Multiple Park System





# Adapting Eco for Street Trees

Lake Forest street segment example



# Adapting Eco for Street Trees





# Eco – Sample or Complete Inventory?

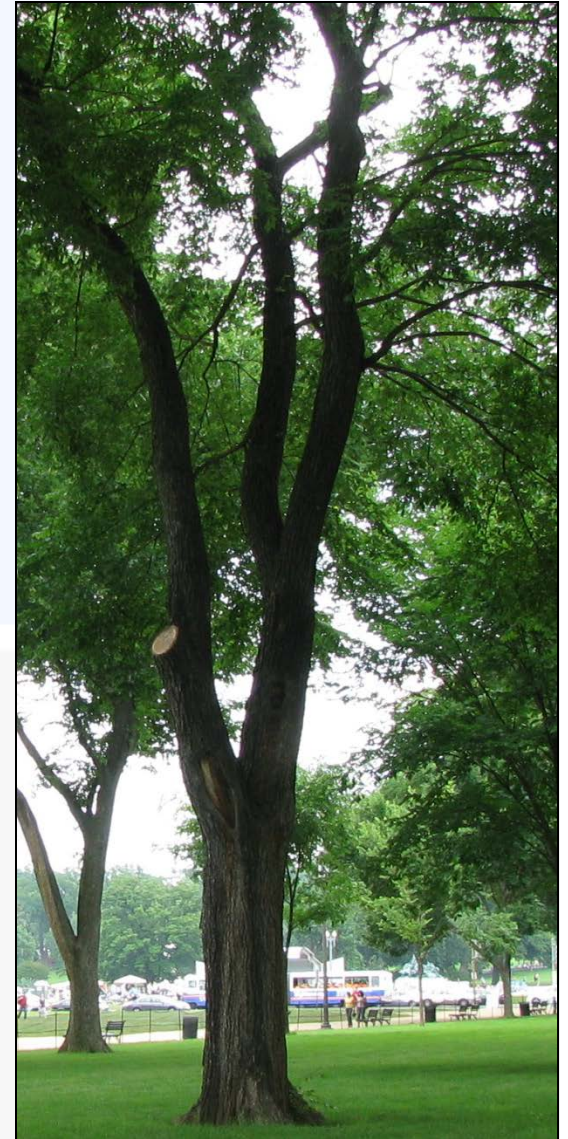


## Complete -every tree

- Small parks
- Corporate campuses
- Residential property
- Specimen/legacy tree

## Sample inventory – plots

- Regional
- District or LGA
- Suburb
- Larger scale parcels



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# Eco Inventory Results Will Provide...



- 🌳 Structural analysis
- 🌳 Carbon sequestration & storage
- 🌳 \*Structural tree value (CTLA)
- 🌳 Annual pollution removal & value
- 🌳 \*Annual biogenic volatile organic compound release

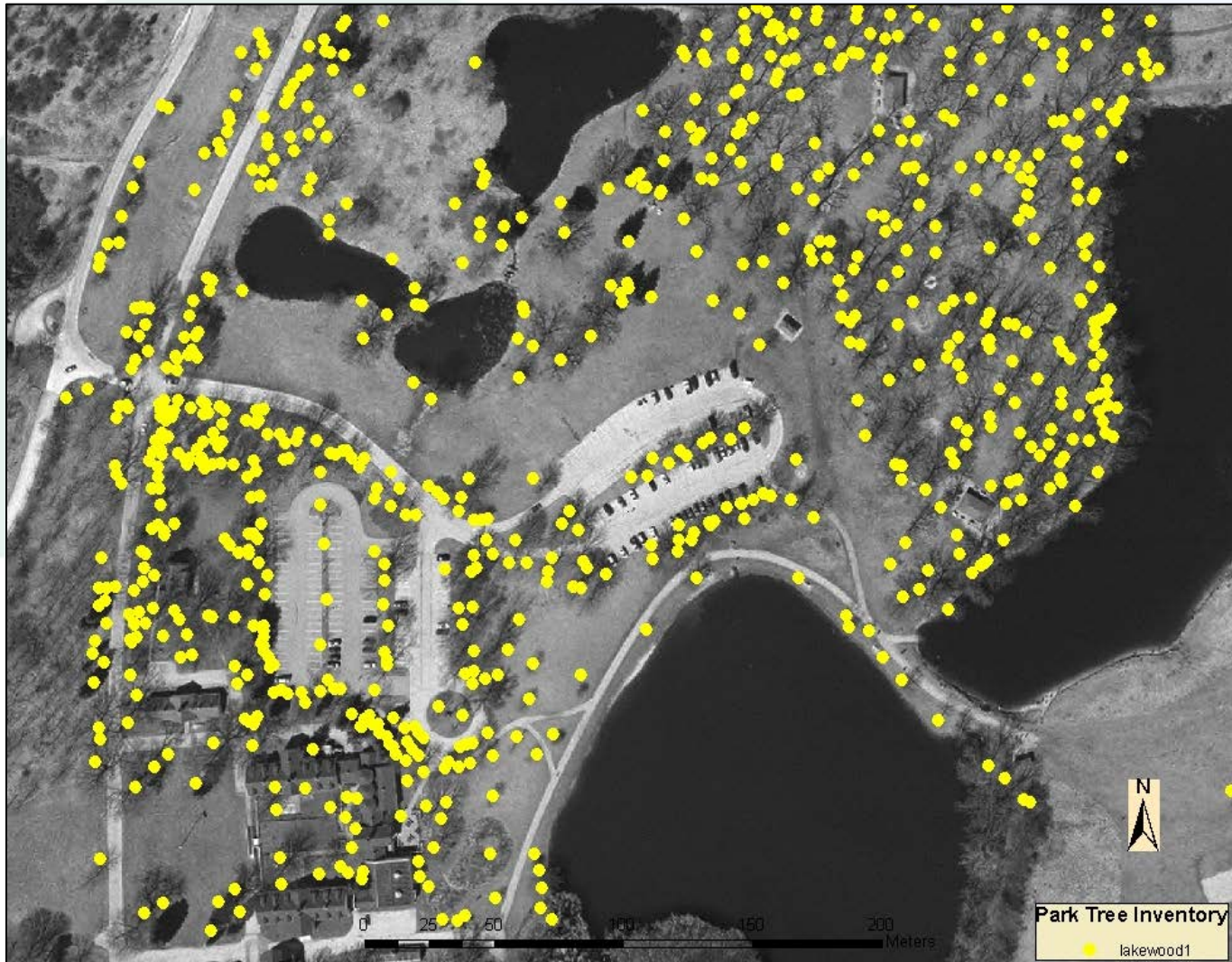


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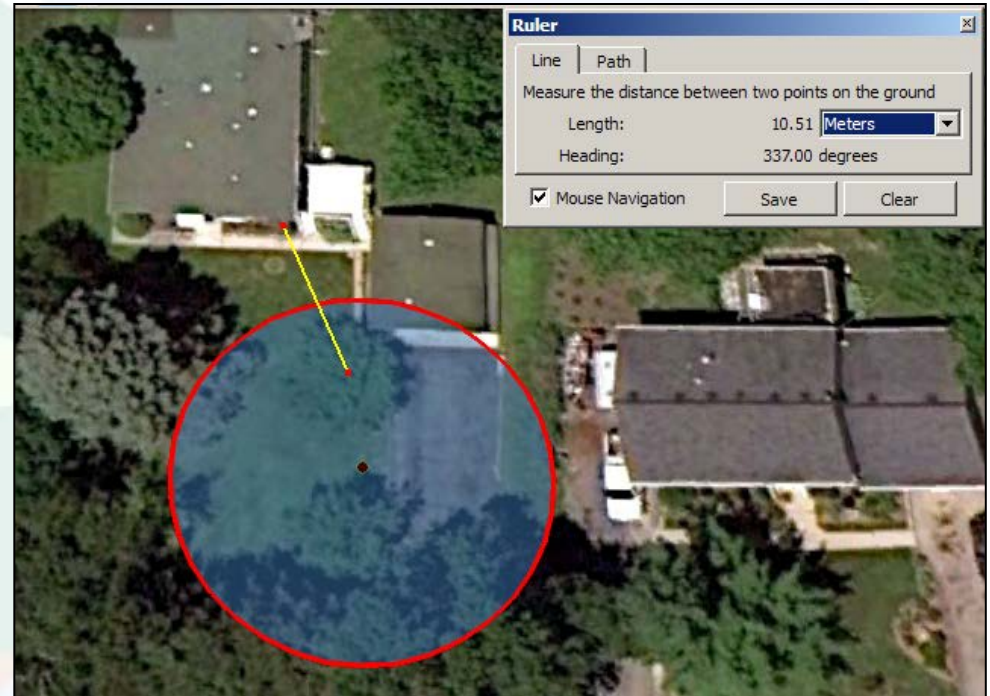
# Importing Existing Data



# Field Data Options for Sample Projects



- 🌳 **Plantable space**
- 🌳 **Energy conservation**
- 🌳 **Shrub contributions**
- 🌳 **Hydrology information**
- 🌳 **Pest detection**



**Ruler**

Line | Path

Measure the distance between two points on the ground

Length: 10.51 Meters

Heading: 337.00 degrees

☒ Mouse Navigation

Save Clear

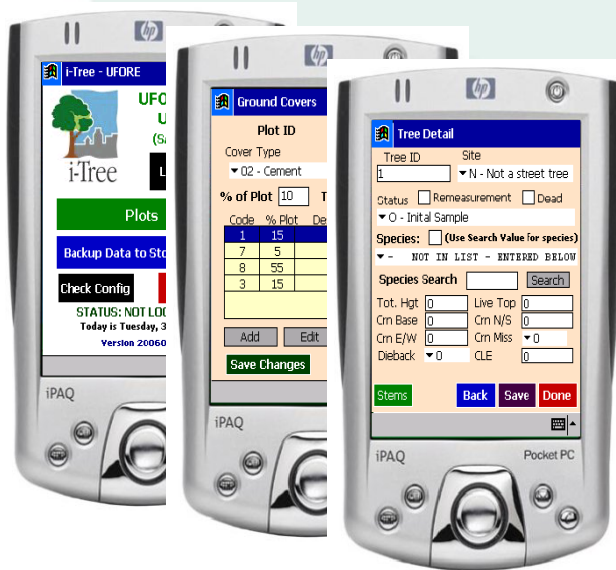


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# PDA or Paper Collection?



# Creating a Sample



**Randomization & Stratification Options**



**Pre vs. Post Stratification**



**Plot Size & Quantity**



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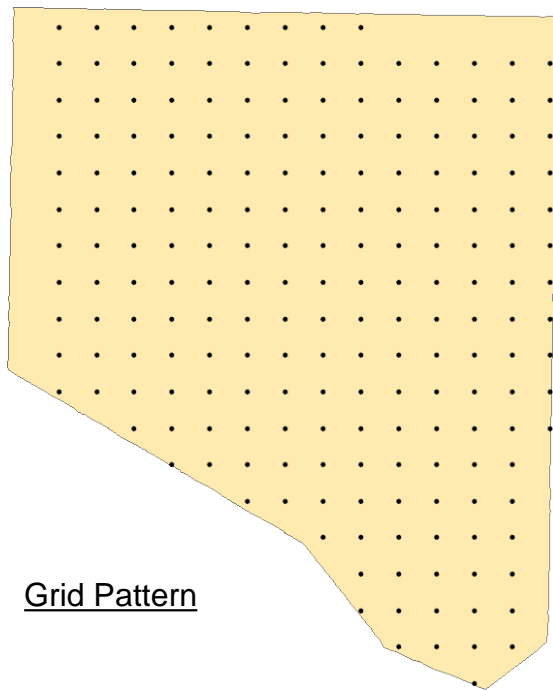


**DAVEY**

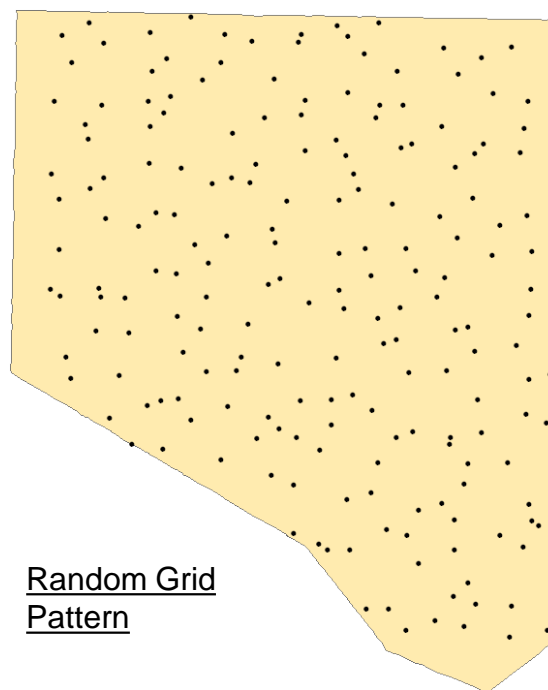




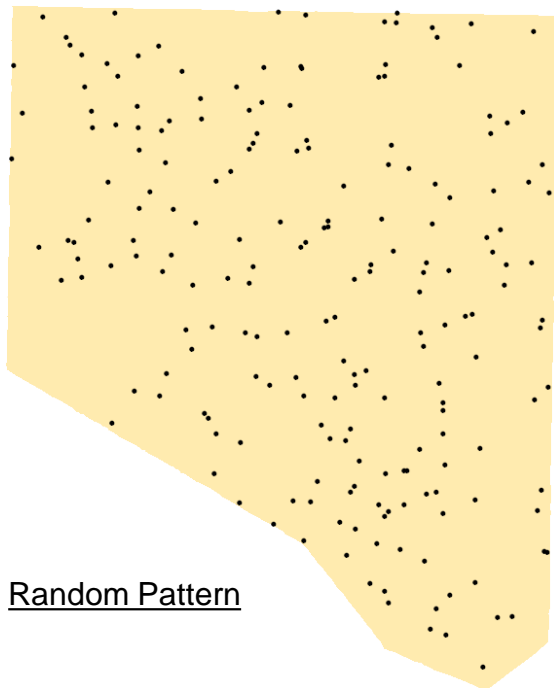
# Creating a Sample



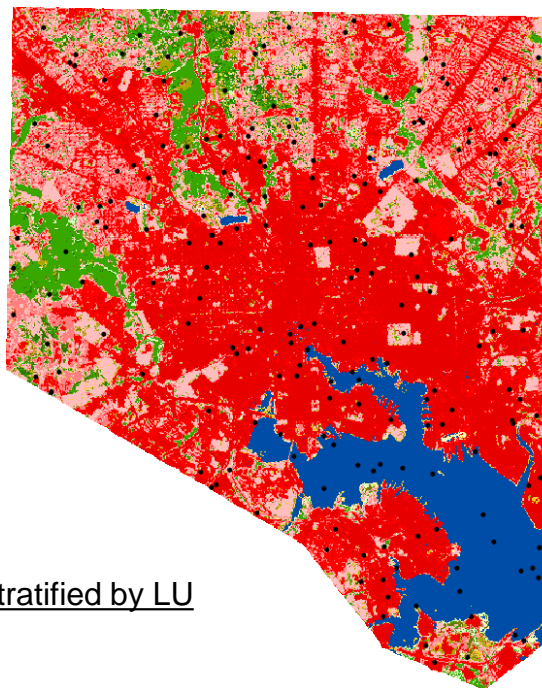
Grid Pattern



Random Grid Pattern



Random Pattern



Stratified by LU

## Legend

- Plots
- Water
- Developed, Open Space
- Developed, Low Intensity
- Developed, Medium Intensity
- Developed, High Intensity
- Barren Land
- Deciduous Forest
- Evergreen Forest
- Mixed Forest
- Pasture/Hay
- Cultivated Crops
- Woody Wetlands
- Emergent Wetlands

# Random with no Stratification

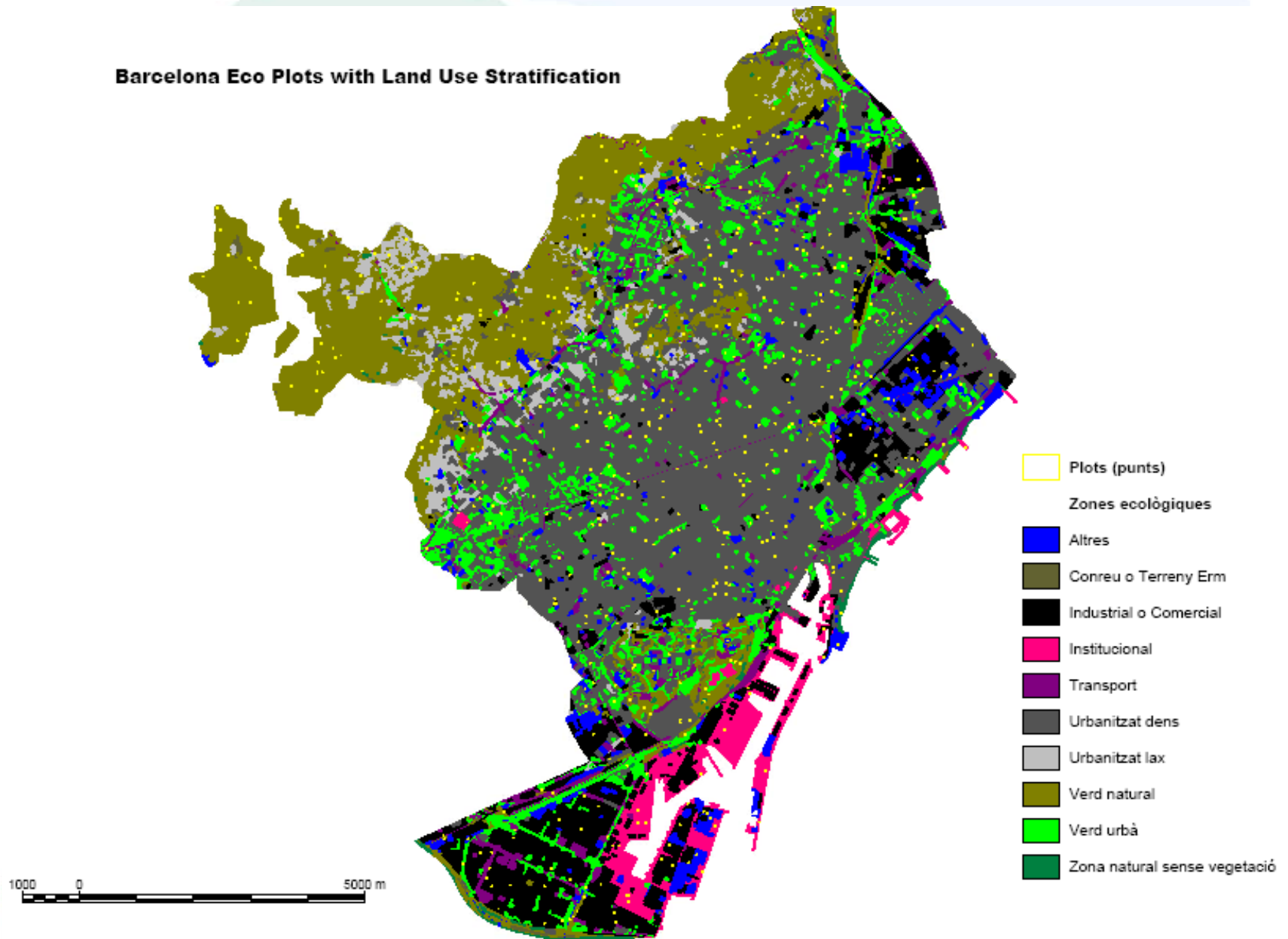


1000 0 5000 m



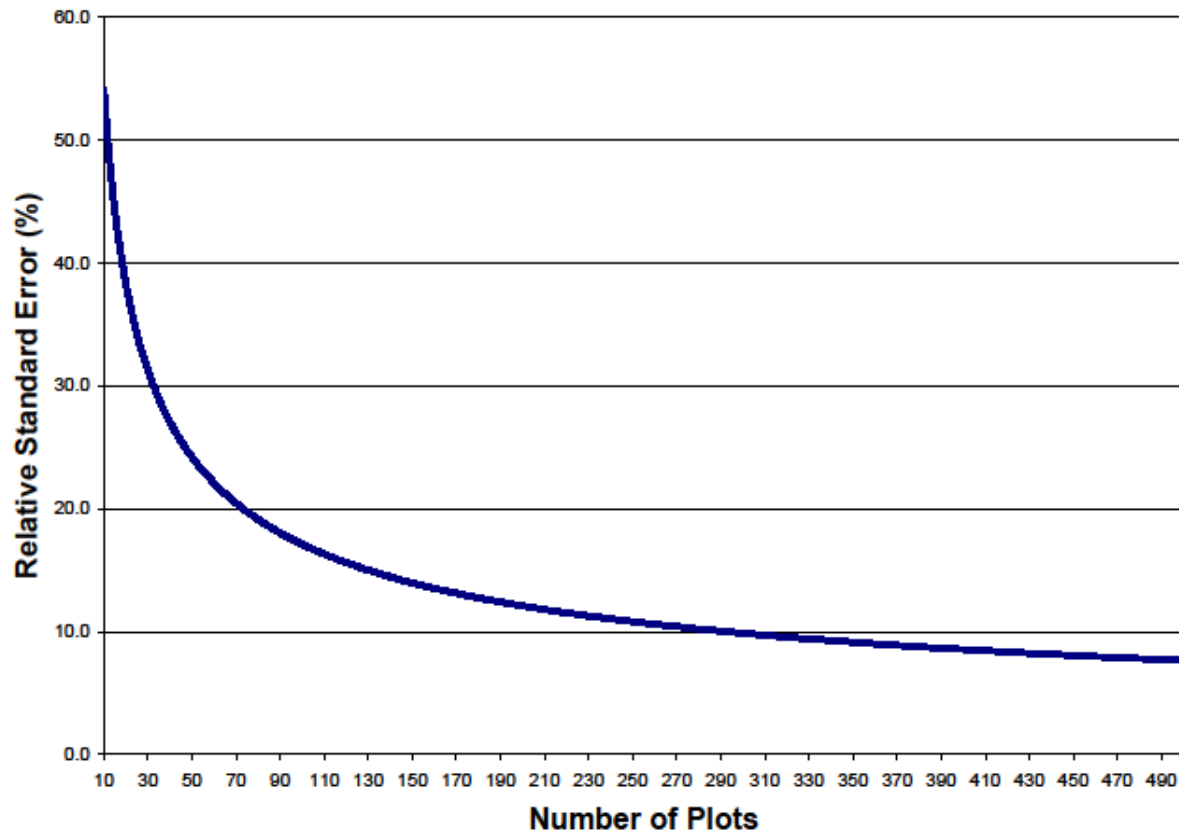
# Random with Post Stratification

Barcelona Eco Plots with Land Use Stratification



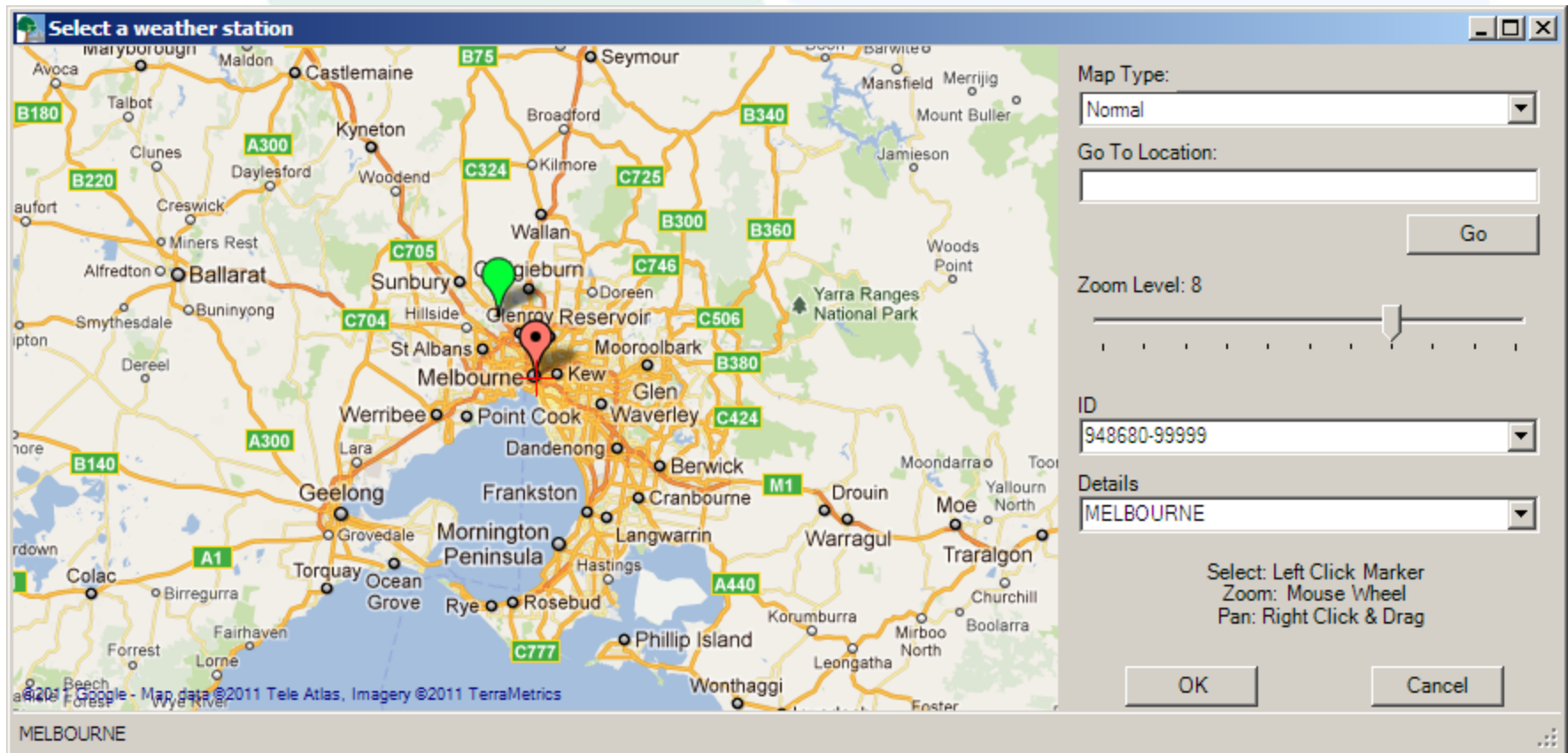
# How many plots do I need?

i-Tree Eco: Relationship of Plot Quantity to Standard Error





# Weather & Air Pollution Data



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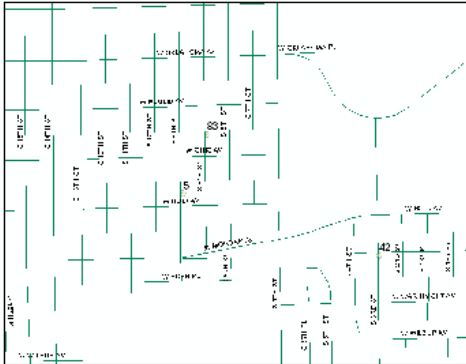


# Eco Project Management Resources



## Milwaukee i-Tree Eco Plot 5

Location: 3358 S 9<sup>th</sup> Pl (no response) both neighbors Yes



Plot detail:



City of Milwaukee, WI



[www.itreetools.org/resources/archives.php](http://www.itreetools.org/resources/archives.php)



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